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## Studies in the Asclepiadaceae.—I.

BY ANNA MURRAY VAIL.

## NOTES ON THE GENUS PHILIBERTELLA IN THE UNITED STATES.

## PHILIBERTELLA.

[SARCOSTEMMA H.B.K. Nov. Gen. et Sp. 3: 193. 1818. As to the three species described and not R. Br. 1809.]

[CERAMANTHUS (subgenus) Kunze, Linnaea, 20: 26. 1847. Not Hassk. 1844.]

[PHILIBERTIA Benth. and Hook. Gen. Pl. 2: Part 2, 750. In part, 1876. Not H.B.K. 1818.]

[PHILIBERTIA A. Gray, Proc. Am. Acad. 12: 64. 1876. Not H.B.K. 1818.]

The genus *Philibertia*, dedicated to J. C. Philibert, author of some French elementary botanical works, was established in H.B.K. Nov. Gen. et Sp. 3: 195. *pl.* 230, and founded on one species, *Philibertia solanoides*, from Tomependa on the Amazon river, a species reduced by K. Schumann in Engler and Prantl, Nat. Pfl. Fam. 1895, to the genus *Oxystelma* R. Br. 1809 where it seems rightfully to belong.

Most of the North American species have been originally described by various authors under *Sarcostemma* and were reduced by Dr. Asa Gray to *Philibertia* in 1876. *Sarcostemma* is a genus with leafless jointed stems, and as far as is known does not occur on the American continent, those of the South American species described under that genus belonging either to *Philibertella* or to *Oxystelma*.

The genus *Philibertella* is here accepted as described under *Philibertia* by K. Schumann in Engler and Prantl, Nat. Pfl. 4: 229, 1895, as follows:

Calyx small, 5-parted, the lobes acute; corolla campanulate or rotate, deeply 5-parted, the lobes acute or obtuse, with a shallow entire or undulate ring forming an outer crown in its throat, the inner or staminal crown consisting of five turgid fleshy or hard scales, or flattish appendages, attached in a circle at the base of the

sessile or slightly stalked gynostegium (column), forming a hollow entire or undulate spreading surface near the level of the conical stigmas; follicles naked, slender, attenuate at both ends or obtuse at the base.

Twining herbs, or partly shrubby plants, of warm regions, with opposite glabrous pubescent or woolly leaves and umbellate sometimes fragrant and showy flowers. Some thirty species are known from North and South America, according to Schumann, extending from southern Utah to South Brazil and Argentina.

The following species occur within the limits of the United States:

PHILIBERTELLA CLAUSA (Jacq.).

*Cynauchum clausum* Jacq. Select. Am. 1: 87. pl. 60. f. 2. 1763.

*Asclepias viminalis* Swartz, Prodr. 53. 1788.

*Sarcostemma Brownii* G. F. W. Meyer, Prim. Fl. Esseq. 139. 1818.

*Sarcostemma clausum* Roem. & Schult. Syst. Veg. 6: 114. 1820.

*Sarcostemma crassifolium* Chapm. Fl. 368. 1860. Not Decaisne, 1844.

*Philibertia viminalis* A. Gray, Proc. Am. Acad. 12: 64. 1876.

Very variable. Some of the narrower leaved forms are so close to *Philibertia crassifolia* (Decsne) and *Philibertia Cumanensis* (H.B.K.) as to possibly include them both. *Philibertia Palmeri* (A. Gray), another closely related species, may also, on further study of the Mexican species, prove to be a more pubescent and broader leaved form of *P. clausa*.

Original locality, Cartagena, Columbia.

*Florida*: Key West, Blodgett; Indian River, A. H. Curtiss, no. 2306, Palm Beach, Webber, no. 68.

*Demerara*: Jenman, no 4381.

*New Granada*: Holton, no. 458, 1853.

*British Guiana*: Jenman, no. 2025.

PHILIBERTELLA CRISPA (Benth.)

*Sarcostemma crispum* Benth. Pl. Hartw. 291. 1841.

*Sarcostemma undulatum* Torr. Bot. Mex. Bound. Surv. 161. 1859.

*Sarcostemma heterophyllum* var? Torr. Bot. Mex. Bound. Surv. 162. 1859.

*Philibertia undulata* A. Gray, Proc. Am. Acad. 12: 65. 1876.

*Philibertia crispa* Hemsley, Biol. Centr. Am. 2: 318. 1881.

Very variable as to the size and undulation of the leaves. No. 1326, collected by C. G. Pringle in Chihuahua, is undoubtedly this species, but there is scarcely any undulation on the leaf margin and no trace, except on a few young leaves, of the whitish midvein, so prominent on the Texan specimens. Wright, no. 1679, from New Mexico, also belongs here, though the gynostegium is somewhat more sessile than in most specimens. In the original description by Dr. Torrey of *Sarcostemma undulatum* there is reference to its similarity to *Sarcostemma crispum* Benth., doubting, however, its identity with that plant, owing to the latter being "a humble species only half a foot long, the peduncles barely equal the petioles;" but as specimens of *S. undulatum* have since been collected (Austin, Texas, E. Hall, 1872, no. 518, in U. S. Nat. Herb.) which measure only 12 cm. in length, and others again with very short petioles and peduncles, there is little doubt that this is the species described by Bentham, of which only one original specimen is known. In other respects the description of *S. crispum* is that of *S. undulatum* in every detail except as regards some of the larger leaved Texan specimens.

Original locality, Aguas Calientes, Mexico. Type in Herb. Kew.

*Texas*: Tom Greene Co. Tweedy, 1879; Blanco, Wright, nos. 1678\*, 547, October, 1849; Mexican Bound. Surv. nos. 1066 and 1068; T. Havard, October, 1881; Dallas, Reverchon, 1881; Austin, Hall, no. 518.

*New Mexico*: Wright, no. 679.

*Arizona*: E. Palmer, 1869.

*Mexico*: C. G. Pringle, no. 1326, 1887.

#### PHILIBERTELLA CYNANCHOIDES (Decne.)

*Sarcostemma cynanchoides* Decne. in DC. Prodr. 8: 540. 1844.

*Gonolobus viridiflora* Torr. Ann. Lyc. N. Y. 2: 219. 1828. Not Nuttall, 1818.

*Philibertia cynanchoides* A. Gray, Proc. Am. Acad. 12: 64. 1876.

*Philibertia viridiflora* Britt. & Rusby, Trans. N. Y. Acad. Sci. 7: 11. 1887.

Original locality, Matamoros, Mexico.

Type in Herb. Mus. Par. Authentic specimens, Berlandier, no. 2334 in Herb. Columbia University.

Along rivers, southern Utah, New Mexico, Arizona and Texas to Guatemala.\*

*Arizona* : Fort Verde, Mearns, no. 238.

*New Mexico*. Rusby, no. 261 ; Wright, no. 1680.

*Texas* : San Diego, Mary Croft, no. 70 ; Mexican Boundary Survey, below Presidio del Norte ; Berlandier, no. 904.

*Mexico* : Berlandier, no. 2334 ; Thurber, no. 368, 1851 ; Paso del Norte, Chihuahua, no. 1324.

#### PHILIBERTELLA HARTWEGII.

*Sarcostemma lineare* Decne.; Benth. Pl. Hartw. 25. 1840. Not Sprengel, 1822.

*Philibertia linearis* A. Gray, Proc. Am. Acad. 12: 64. 1876. Original locality, Leon, Mexico.

Type, Hartweg, no. 217.

Southern Arizona to Lower California and South Mexico.

Fremont's Expedition to California, 1849, without locality.

*Southern California* : Parry and Lemmon, no. 230. 1876.

*Lower California* : Lieut. Pond, 1889 ; Lagoon Head, Palmer, no. 814. 1889.

*Mexico* : Gregg, 1847 ; Sonora, Capt. Smith ; Sonora, Thurber, 369, 1851.

#### PHILIBERTELLA HARTWEGII HETEROPHYLLA (Engelm).

*Sarcostemma heterophylla* Engelm., in Torr. Pac. R. R. Rep. 5 : Appendix, 362. 1856-57.

*Philibertia linearis* var. *heterophylla* A. Gray, Proc. Am. Acad. 12: 64. 1876.

Very variable. The broader leaved forms seem to approach the narrower-leaved specimens of *P. crispa*, but they are thinner and much shorter. The gynostegium seems to be invariably sessile or nearly so, and the lobes of the corolla are always acute.

Original locality, Fort Yuma, California. Type in Herb. Co.

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\* A specimen of this species labelled *Gonolobus viridiflorum* Nutt., preserved in Herb. Columbia University is claimed to have been collected near St. Louis, Missouri, by Dr. Baldwin.

lumbia University. California to Arizona, New Mexico and Mexico.

*New Mexico:* Wright, no. 1681.

*California:* Fort Yuma, Major Thomas; Mexican Boundary Survey, San Luis Rey, 1850.

*Lower California:* Palmer, no. 5. 1887.

*Mexico:* Pringle, no. 1051.

PHILIBERTELLA HIRTELLA (A. Gray).

*Sarcostemma lineare* var. *hirtella* A. Gray, Bot. Calif. 1: 478. 1876.

*Philibertia linearis* var. *hirtella* A. Gray, Syn. Fl. 2: Part 1, 88. 1878.

Stems many, in clusters, mostly branched near the base, erect and twining above from a stout corky-barked decumbent? or prostrate? stem or rhizome; densely and softly cinereous-pubescent and pale gray-green throughout; leaves sessile, or very short petioled, 1-3.4 cm. long, narrowly linear, thickish, densely cinereous-pubescent on both surfaces; peduncles 1-4 cm. long, 8-12-flowered or more; pedicels 5-8 mm. long, slender; calyx-lobes lanceolate, acute; corolla 8-9 mm. broad, the lobes acutish, dull purple? with a scarious ciliate margin, unequally granulose above, cinereous-pubescent beneath; outer crown shallow, slightly undulate; scales of the staminal crown flattened, acutish; follicles usually in pairs, conspicuously diverging, 5-5.5 cm. long, fusiform, long-attenuate at the apex, less so or obtuse at the base, densely cinereous-pubescent, 3-4 seeded, possibly more; seeds 7-8 mm. long, flat and thin, the margin slightly revolute, entire at the apex, strongly tuberculate on the inside and granulose on the outside; coma 2-2.5 cm. long. May.

Original locality, Sandy River, Fort Mohave, California.

Type in Herb. Harvard University.

*Arizona:* The Needles, Jones, no. 3815; Palmer, 1884.

*California:* Colorado River Valley, Palmer, no. 441, 1876; Willow Creek Cañon, Panamint Mountains, Coville and Funston, no. 817, 1891. Said to extend into Texas and Mexico.

PHILIBERTELLA TORREYI (A. Gray.)

*Sarcostemma elegans?* Torr. Mex. Bound. Surv. 161. 1859. Not Decne. 1844.

*Philibertia Torreyi* A. Gray, Proc. Am. Acad. 12: 64. 1876.

Apparently only collected once. Close to *Philibertella elegans* (Decne.); but differing in its slightly less acute corolla segments, and less conspicuous outer crown. The scales of the stamineal crown in *Philibertella elegans* are vertically flattened, acute and almost petaloid, whereas those of *P. Torreyi* are truncate, rounded or flat on top.

Original locality, Rocky Hills on the Cibolo, a tributary of the Rio Grande, southwest Texas.

Type in Herbarium, Columbia University.

The specimens examined for these notes are those contained in the Herbarium of Columbia University and the U. S. Nat. Herbarium at Washington.

### Plants from Nez Perces County, Idaho.

BY A. A. HELLER.

(PLATES 309, 310.)

Four months of the season of 1896 were spent in northern Idaho by Mrs. Heller and myself, during which time many interesting species were collected. Among these a dozen or more seem to be new, and have already been distributed as such, although not yet described. As soon as possible a complete report on the work will be published, with descriptions of the new species, and notes on all of the others. The following new and noteworthy species are discussed in this paper:

*POA SCABRIFOLIA* n. n.

*Poa filifolia* Vasey, Cont. U. S. Nat. Herb. 1: 271. Not Schur.

The very appropriate name which Dr. Vasey gave to this beautiful species, is not tenable on account of the earlier *Poa filifolia*, published by Schur, in Enum. Pl. Transs. 768. 1866. It is plentiful at the type locality, on the left bank of the Clearwater river, near the Upper Ferry, east of Lewiston.

*RANUNCULUS ARCUATUS* n. n.

*Ranunculus tenellus* Nutt.; T. & G. Fl. N. A. 1: 230. 1838. Not Viviani.